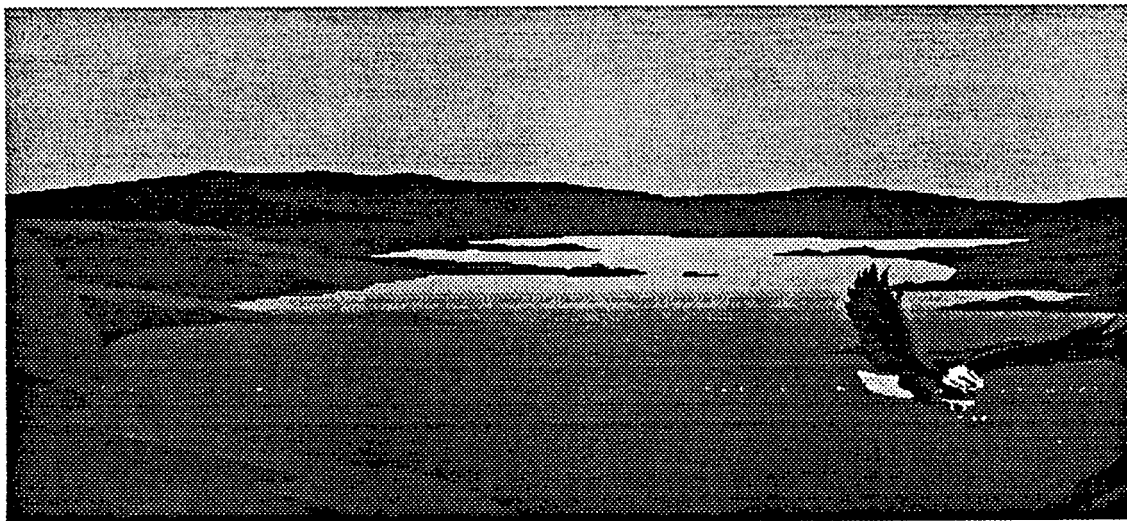


ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For
February, 1992



March 20, 1992



EG&G ROCKY FLATS

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**U.S. DEPARTMENT OF ENERGY
ROCKY FLATS PLANT
ENVIRONMENTAL RESTORATION
PROGRAM**

**MONTHLY REPORT FOR
FEBRUARY 1992**

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1.0 INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for February 1992. This program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

Section 2.1 of this report highlights significant achievements and summarizes the milestones completed during February. Section 2.2 presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Operable Units will be reported on as work in them commences. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the program as required by paragraph 13 of the IAG.

2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR FEBRUARY 1992

The Rocky Flats Environmental Database System (RFEDS) transmittal of OU 1 environmental data for the OU 1 remedial investigation (RI) fieldwork to the subcontractor is underway to support the RI report.

Excavation of approximately 1,200 feet of the Interim Remedial Action (IRA) French drain is complete. EPA and CDH agreed to process a 30-working-day extension to the French drain portion of the March 2, 1992 IAG milestone for completion of construction of the OU 1 IRA.

13 additional monitoring wells for the OU 2 RI were completed during February, bringing the total number of monitoring wells completed to 68. Eight boreholes were also completed during February, bringing the total number of boreholes completed to 24. Linear drilling footage completed to date is 3,088 feet, approximately 500 feet of which was drilling during February.

Shipment of the microfiltration unit to be used in the radionuclides removal system in the Walnut Creek phase of the OU 2 IRA was authorized on February 25, 1992, and the unit was delivered to the Denver area on February 28, 1992. Delivery of two 48-foot trailers to the vendor is expected on March 2, 1992. Modification of the trailers for installation of the microfiltration unit and process equipment will follow. The scheduled delivery date of the completed trailers to RFP for installation and setup is April 3, 1992.

Comments were received on the OU 2 "Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document" (IM/IRA/EA) from DOE/HQ on February 25, 1992. The document is scheduled for delivery to EPA and CDH on March 2, 1992.

The OU 3 revised Final Phase I RFI/RI Work Plan was delivered to EPA and CDH on February 28, 1992. This document incorporated comments received on the Final Work Plan which was originally submitted on the revised IAG schedule date of December 6, 1991.

The OU 4 Final Interim Measures/Interim Remedial Action (IM/IRA) Responsiveness Summary and Decision Document was delivered to EPA and CDH February 11, 1992. This IM/IRA is in support of pondcrete operations and solar pond clean out.

The OU 4 Final Phase I RFI/RI Work Plan incorporating comments from CDH and EPA was submitted to EPA and CDH on February 5, 1992. The Work Plan is currently being reviewed by EPA and CDH. Agency approval on the document is expected in March 1992.

Corrections to the OU 5 Final Phase I RFI/RI Work Plan were completed and presented to the EPA and CDH on February 27, 1992, one day ahead of the due date. The submittal of this revised document by DOE gives conditional approval of the OU 5 Work Plan by the regulatory agencies (EPA letter of February 19, 1992 to DOE).

Technical Memorandum No. 1, "Revisions to Final Phase 1 RFI/RI Work Plan" for OU 6 was submitted to the EPA and CDH on December 16, 1992 for approval. Conditional approval of the OU 6 Work Plan was received by DOE from EPA on February 27, 1992.

The revised OU 9 Final Phase I RF/RI Work Plan was submitted to EPA, CDH, and the Natural Resources Trustees on February 28, 1992, the regulatory agency due date.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

Work supporting the OU 1 IAG milestone for submittal of the RI report, July 30, 1992, may be delayed due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The second quarter sampling on the ground water wells has just begun. The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. The impact to the IAG milestone for delivery of the RI Report is being evaluated.

Fiscal Year 1992 (FY92) funding is insufficient to fund the OU 2 bedrock assessment program; therefore, no drilling or field activities will occur in the bedrock program. The bedrock program will be re-evaluated for FY93.

The delay in removal of sludge from the OU 4 solar evaporation ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RF/RI field activities in January 1992. The impact, if any, to the IAG milestone for delivery of the RF/RI Report is being evaluated.

2.3 NEAR-TERM IAG MILESTONES

<u>OU#</u>	<u>Milestone Description</u>	<u>Scheduled Completion</u>	<u>Actual Completion</u>
03	Submit Final Phase I RF/RI Work Plan	06 Dec 91*	06 Dec 91
11	Submit Final Phase I RF/RI Work Plan	02 Jan 92	02 Jan 92
SW	Submit Draft Historical Release Report	08 Jan 92	08 Jan 92
SW	Submit Responsiveness Summary RDL	30 Jan 92	30 Jan 92
01	Complete IM/IRA Construction (Treatment plant)	02 Mar 92	
01	Complete IM/IRA Construction (French drain)	13 Apr 92	
16	Submit Draft No Further Action Justification	04 Mar 92	
02	Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92	
02	Complete IM/IRA Construction (Rads Removal System)	24 Apr 92	
02	Begin Field Treatability Testing (Rads Removal System)	27 Apr 92	

* indicates a revised date

3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involves construction of an underground drainage system called a French drain that will intercept and contain contaminated ground water flowing from the OU 1 area. The contaminated water will be treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch alongside Woman Creek. IRA construction is scheduled to be completed in 1992. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action are continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase III RI/RI Work Plan	06 Feb 90
Submit Final Phase III RI/RI Work Plan	31 Oct 90

FEBRUARY WORK ACTIVITY STATUS:

The Rocky Flats Environmental Database System (RFEDS) transmittal of OU 1 environmental data for the OU 1 remedial investigation (RI) fieldwork to the subcontractor is underway to support the RI report. Work supporting the IAG milestone for submittal of the RI report, July 30, 1992, may be delayed due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The second quarter sampling on the ground water wells has just begun. The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. The impact to the IAG milestone for delivery of the RI Report is being evaluated.

PLANNED WORK FOR MARCH:

Data evaluation required to generate the RI report is scheduled to continue through June 1992.

PROBLEMS:

Work supporting the IAG milestone for submittal of the RI report, July 30, 1992, may be delayed due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The second quarter sampling on the ground water wells has just begun. The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. The impact to the IAG milestone for delivery of the RI Report is being evaluated.

OPEN ITEMS: None

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91

FEBRUARY WORK ACTIVITY STATUS:

Treatment building 891 pipe heat tracing and insulation supporting the OU 1 IRA is complete. The electricians are approximately 98% complete with electrical work within Building 891. The lightning protection system for the building and the effluent tanks are complete. The main control panel (MCP) internals installation has begun and component checkout testing began on February 28, 1992.

The effluent tank internal coatings were inspected February 19, 1992. Inspection results revealed that coating thicknesses were slightly thin and would require an additional coat which was completed on February 20, 1992. The effluent tank internal coating is now complete and has been inspected and approved. The coating cure time was accelerated with diesel heaters. The final external coat of paint was completed as well as the cathodic protection work for the effluent tanks. Effluent tank hydrotesting began February 28, 1992.

The final draft of the Work Plan for operation and maintenance of the OU 1 system was submitted on February 27, 1992 which allowed the Operational Readiness Review to begin on February 28, 1992. The Systems Operation Test will start on March 2, 1992, as scheduled.

The Building 891 operations subcontractor started operations training during February. DOE and EG&G are presently making arrangements for Ion Exchange and UV/Peroxide startup assistance for the week of March 9, 1992.

Excavation of approximately 1,200 feet of the Interim Remedial Action (IRA) French drain is complete. Recent project delays have been encountered due to saturated soils and additional unstable soil conditions. A test pothole was excavated on February 3, 1992, at station 1+00 (located 100 feet from the western end of the French drain). Potholing revealed that bedrock depth was approximately 15 feet deeper than originally expected, and there was ground water seepage of approximately one gallon per minute (gpm).

On Saturday, February 10, 1992, a slump failure occurred on the south side at approximately 8+00. Muddy conditions slowed progress as the excavation continued toward the east. Cracks developed 50 feet uphill and parallel to the excavation from station 8+00 and further to the east. Dewatering operations for saturated soils encountered at Station 6+75 and 0+00 to approximately 5+00 were initiated and continued through February. Dewatering for saturated soils encountered at Station 6+75 worked well. Drain excavation continued.

A meeting with the regulatory agencies was held February 27, 1992 to discuss truncating the French drain at station 5+00. Final determinations were not made, however, EPA and CDH agreed to process a 30-working-day extension to the March 2, 1992 IAG milestone for completion of construction of the French drain. A followup meeting is scheduled for the end of March, 1992. The subsurface waters encountered on the far west end of the French drain are believed to originate from a source other than OU 1. Investigations continue.

PLANNED WORK FOR MARCH:

Continue construction of the French drain and begin testing

The 891 building operations subcontractor personnel will undergo 40-hour OSHA training, radiation safety training and confined space entry training

Building 891 main control panel (MCP) internals installation and components checkout and the 1 Megawatt substation terminations

Continue effluent tank hydrotesting

Total systems operations testing

PROBLEMS:

Recent project delays have been encountered due to saturated soils and additional unstable soil conditions. Potholing revealed that bedrock depth was approximately 15 feet deeper than originally expected. Muddy conditions slowed progress as the excavation of the IRA French drain continued toward the east. Cracks developed 50 feet uphill and parallel to the excavation from station 8+00 and further to the east. Dewatering operations for saturated soils encountered at Station 6+75 and 0+00 to approximately 5+00 were initiated and continued through February. Dewatering for saturated soils encountered at Station 6+75 worked well. A meeting with the regulatory agencies was held February 27, 1992 to discuss truncating the French drain at station 5+00. Final determinations were not made, however, EPA and CDH agreed to extend the completion of the French drain construction milestone into April, 1992.

OPEN ITEMS:

It is anticipated that the 891 Treatment Building portion of the IRA will meet the March 2, 1992 IAG milestone and the French drain portion of the IRA will receive schedule relief from the regulatory agencies into April, 1992.

3.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

DESCRIPTION:

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contaminants that were not removed by the treatment system.

An Interim Measures/Interim Remedial Action (IM/IRA) provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage began in May 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

FEBRUARY WORK ACTIVITY STATUS:

13 additional monitoring wells were completed during February, bringing the total number of monitoring well completed to 68. Eight boreholes were completed during February, bringing the total number of boreholes completed to 24. There are a total of 85 monitoring wells and 43 boreholes planned for the OU 2 RI. Linear drilling footage completed to date is 3,088 feet, approximately 500 feet of which was drilling during the month of February. Test pit location number X-6 will be moved out of the Protected Area (PA) for the Soil Sampling program due to logistical problems. The total number of test pits is not anticipated to change.

Both Rig #1 and Rig #2 were shut down two days during February due to high winds and Rig #1 was down one day due to a mechanical breakdown. An additional drilling rig was mobilized to the field on February 17, 1992. This rig will allow faster completion of borehole sampling which is necessary to meet the IAG schedule for the RI report.

The Draft Final Work Plan for multi-pump tests will be submitted to the regulatory agencies for review and approval. This is part of the Phase II RFI/RI Work Plan (Alluvial) fieldwork.

PLANNED WORK FOR MARCH:

Fieldwork will continue through March and is scheduled to be completed May 1, 1992.

PROBLEMS:

Fiscal Year 1992 (FY92) funding is insufficient to fund the bedrock assessment program; therefore, no drilling or field activities will occur in the bedrock program. The bedrock program will be re-evaluated for FY93. Moreover, due to the postponement of the bedrock program, field support activities for the soil sampling field activities must be funded independently of drilling activities.

OPEN ITEMS: None

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91

FEBRUARY WORK ACTIVITY STATUS:

The Walnut Creek phase of the OU 2 granular activated carbon (GAC) IRA unit collected, treated, and discharged 177,065 gallons of water during February, 1992. Twenty-four-hour manned operation continues without problems. The preliminary draft treatability test report for the GAC system is scheduled to be submitted to EPA and CDH on April 1, 1992.

Shipment of the microfiltration unit which will be used in the radionuclides removal system in the Walnut Creek phase of OU 2 was authorized on February 25, 1992. The unit was delivered to the Denver area on February 28, 1992. Delivery of two 48-foot trailers to the vendor is expected on March 2, 1992. Modification of the trailers for installation of the microfiltration unit and process equipment will follow. The scheduled delivery date of the completed trailers to RFP for installation and setup is April 3, 1992.

Comments were received on the "Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document" (IM/IRA/EA) from DOE/HQ on February 25, 1992. A meeting was held on the same day to incorporate comments into the document. The OU 2 Subsurface IM/IRA document is scheduled for delivery to EPA and CDH on March 2, 1992.

PLANNED WORK FOR MARCH:

The GAC treatment unit will continue operations.

The development of the draft GAC Treatability Study Report will continue.

Fabrication of the radionuclides removal system is ongoing and is scheduled for delivery to RFP April 3, 1992.

The Draft Proposed Subsurface IM/IRA/EA and Decision Document (Woman Creek) will be submitted to EPA and CDH on March 2, 1992 and will begin a 60 day public comment period starting March 20, 1992, following EPA and CDH review.

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as IHSSs: Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay v. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/Preliminary Health Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/Preliminary Health Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

FEBRUARY WORK ACTIVITY STATUS:

The OU 3 revised Final Phase I RFI/RI Work Plan was delivered to EPA and CDH on February 28, 1992. This document incorporated comments received on the Final Work Plan which was originally submitted on the revised IAG schedule date of December 6, 1991. The subcontractor for the RI field work submitted a revised proposal to implement the Work Plan based on changes required by the technical review. The contract is scheduled to be in place to begin work by April 1, 1992.

A SOW was developed to request the USGS to perform sediment and water sampling in the OU 3 reservoirs. DOE will request this work from USGS under an existing IAG between DOE and USGS.

Meetings were held with Jefferson County on February 24, 1992 and the City of Broomfield on February 25, 1992 to discuss field sampling plans and to obtain access agreements for environmental sampling during the 1992 field season. EG&G Legal and the DOE Property Officer are developing an access agreement for use in the OU 3 program.

A modification package to the site-wide water and sediment sampling contract with a subcontractor was initiated on February 27, 1992. This modification tasks the subcontractor to take sediment and water samples in drainages and ditches in OU 3. This modification must be in place by April 1, 1992 to sample spring runoff surface water.

PLANNED WORK FOR MARCH:

Work will continue to obtain access agreements from offsite land owners for field sampling activities. Coordination and planning to begin OU 3 field activities will continue.

PROBLEMS:

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

OPEN ITEMS: None

3.4 OU 4 - SOLAR EVAPORATION PONDS

DESCRIPTION:

OU 4 is made-up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed and disposed of at the Nevada Test Site.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1983. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor system. The ponds are RCRA interim status regulated units that are currently under closure. In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water by the interceptor trench system are the focus of the Interim Measure/Interim Remedial Action (IM/IRA) dated March 1992, which is scheduled to be operational in early 1992.

The March 1992 IM/IRA was developed as a regulatory agency requirement that was out of scope from the tasks outlined in the Interagency Agreement (IAG). DOE attempted to modify an existing permit for water removal and treatment for liquids in the solar ponds and ground water collected by the interceptor trench system, but the regulatory agencies rejected permit modification and required development of an IM/IRA to document operation and use of the proposed water treatment system. The development and implementation of this IM/IRA precedes the IAG scheduled Phase I RFI/RI fieldwork.

There is an IM/IRA scheduled in the IAG that will be completed after results are collected and analyzed from the Phase I RFI/RI fieldwork. The first draft of the IAG IM/IRA is scheduled for delivery in April 1994.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

08 Jun 90
26 Nov 91

FEBRUARY WORK ACTIVITY STATUS:

The Final "March 1992" Interim Measures/Interim Remedial Action (IM/IRA) Responsiveness Summary and Decision Document for OU 4 was delivered to EPA and CDH on February 11, 1992. This IM/IRA documents the operations of temporary water storage in modular tanks and subsequent treatment by forced evaporation. These actions outlined in the IM/IRA are an enabling activity to support pondcrete operations and solar pond cleanout. EPA contacted DOE/RFO on February 24, 1992 to comment on the IM/IRA Decision Document. A meeting is scheduled to include DOE, EPA, CDH, and EG&G on March 5, 1992 to discuss regulatory agency comments on the IM/IRA.

The OU 4 Final Phase I RFI/RI Work Plan incorporating comments from CDH and EPA was submitted to EPA and CDH on February 5, 1992. The Work Plan is being reviewed by EPA and CDH. Agency approval of the document is expected in March, 1992.

The Statement of Work (SOW) for field activities outlined in the Phase I RFI/RI Work Plan is in procurement and the Request for Proposal is expected to be released in March 1992. After the Request for Proposal is released for bid, the subcontractor will have 30 calendar days to prepare and deliver a proposal to the contractor.

PLANNED WORK FOR MARCH:

EPA and CDH review of the Phase I RFI/RI Work Plan is scheduled to be completed in March, 1992.

Continue permitting process for fieldwork outlined in the Work Plan

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. The impact, if any, to the IAG milestone for delivery of the RFI/RI Report is being evaluated.

OPEN ITEMS:

The Statement of Work (SOW) for field activities outlined in the Phase I RFI/RI Work Plan is in procurement and the Request for Proposal is expected to be released in March 1992. After the Request for Proposal is released for bid, the subcontractor will have 30 calendar days to prepare and deliver a proposal to the contractor.

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Woman Creek drainage of ten IHSSs. These are: Original Landfill (IHSS 115); Ash Pits (IHSS 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91

FEBRUARY WORK ACTIVITY STATUS:

A meeting was held on February 3, 1992, among DOE, EPA, CDH and EG&G regarding Technical Memorandum #1 for the OU 5 Phase I RFI/RI Work Plan. A few minor changes to the Work Plan were necessary. Corrections to the Final Phase I RFI/RI Work Plan were completed and presented to the EPA and CDH on February 27, 1992, one day ahead of the due date. The submittal of this revised document by DOE gave conditional approval of the OU 5 Work Plan by the regulatory agencies (EPA letter of February 19, 1992 to DOE).

Statements of Work (SOWs) to implement the Environmental Evaluation Work Plan, Ambient Air Monitors, and the implementation of the RFI/RI Work Plan are being prepared.

EG&G representatives presented an overview of the OU 5 RFI/RI Work Plan to the Technical Review Group (TRG) on February 19, 1992. The presentation also explained how the treatability studies and the feasibility studies follow the completion of the RI reports. A question and answer session followed the presentation. The TRG is comprised of 20 to 25 participants from local municipalities and environmental groups who analyze, discuss and provide recommendations on the plant's environmental restoration projects. The meeting was part of the ongoing community relations plan to involve the community in ER projects through participation in work plan scoping and review.

PLANNED WORK FOR MARCH:

Continue development of statements of work (SOWs) for the Environmental Evaluation Work Plan, Ambient Air Monitors, and the implementation of the RFI/RI Work Plan.

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of twenty Individual Hazardous Substance Sites (IHSSs). They are the A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was transferred from OU 14 to OU 6 in 1991. Two IHSSs, Property Utilization And Disposal Yard (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been transferred from OU 6 to OU 10. Thirteen ground water monitoring wells will be installed throughout OU 6 to monitor the alluvial aquifer. Five bedrock ground water monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. To characterize the bedrock aquifer in the vicinity of the A-series ponds up to 9 additional bedrock ground water monitoring wells may be installed.

Sediment samples will be collected from the drainage in OU 6 where existing data are insufficient to adequately characterize the sediments. Sediment sampling has been proposed along each stream segment on North and South Walnut creeks where additional characterization is needed. Based on a review of the data collected at the existing locations along the OU 6 drainage, there is sufficient information about the sediments in many parts of OU 6; therefore, the sampling locations specified in the RFI/RI Work Plan have been reduced in those areas.

The surface soil sampling has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil samples specified in the IAG will be obtained from the original surface of these units. This will entail borings through the overlying fill material down to the original surface to collect samples.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91

FEBRUARY WORK ACTIVITY STATUS:

Technical Memorandum No. 1, "Revisions to Final Phase 1 RFI/RI Work Plan" for OU 6 was submitted to the EPA and CDH on December 16, 1992 for approval. Conditional approval of the OU 6 Work Plan was received by DOE from EPA on February 27, 1992.

The SOW for implementation of the Work Plan has been modified to include surface water and sediment sampling. The SOW has also been expanded to include a comprehensive section on human health risk assessment. The procurement package is being prepared.

EG&G representatives presented an overview of the OU 6 RFI/RI Work Plan to the Technical Review Group (TRG) on February 19, 1992. The presentation also explained how the treatability studies and the feasibility studies follow the completion of the RI reports. A question and answer session followed the presentation. The TRG is comprised of 20 to 25 participants from local municipalities and environmental groups who analyze, discuss and provide recommendations on the plant's environmental restoration projects. The meeting was part of the ongoing community relations plan to involve the community in ER projects through participation in work plan scoping and review.

PLANNED WORK FOR MARCH:

The procurement process for the OU 6 fieldwork contract will be initiated during March.

PROBLEMS: None

OPEN ITEMS: None

3.7 OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill - Operable Unit (OU) 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s extensive investigations were conducted on the waste streams (types) placed into the landfill, and consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91

FEBRUARY WORK ACTIVITY STATUS:

Work started on the statement of work (SOW) for the Phase I RFI/RI Work Plan implementation.

PLANNED WORK FOR MARCH:

Development of the statement of work (SOW) for the Phase I RFI/RI Work Plan implementation will continue in March.

PROBLEMS: None

OPEN ITEMS: None

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 38 IHSSs which constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, underground pipelines, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

FEBRUARY WORK ACTIVITY STATUS:

Preparation of the Draft OU 8 RF/RI Work Plan continued. The Draft OU 8 RF/RI Work Plan is scheduled to be delivered to the regulatory agencies in May, 1992.

PLANNED WORK FOR MARCH:

Scoping activities with the regulatory agencies will continue through March.

PROBLEMS: None

OPEN ITEMS: None

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to onsite treatment plants. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system have been incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics and acids. Small quantities of other liquids were also introduced in the system, including pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which are accessible, and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and borings where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines and by installing borings around the tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

FEBRUARY WORK ACTIVITY STATUS:

The revised Final Phase I RFI/RI Work Plan was submitted to CDH, EPA, and the Natural Resource Trustees on February 28, 1992, the regulatory agency due date.

PLANNED WORK FOR MARCH:

The procurement package for implementation of the Final Phase I RFI/RI Work Plan will be finalized

PROBLEMS: None

3.10 OU 10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU 10 is made up of 18 IHSSs scattered throughout the plant which consist of various hazardous waste units. Six of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. A Draft Phase I RFI/RI Work Plan is currently in preparation. The primary components of the RFI/RI Work Plan for OU 10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan. IRA is scheduled to begin in early 1998.

Three additional IHSSs were transferred from other operable units to OU 10 after the Draft RFI/RI Work Plan was completed in FY90. The Draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification was initiated to incorporate the three IHSSs into the Draft Work Plan and to perform general upgrades to the Plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan 27 Nov 91

FEBRUARY WORK ACTIVITY STATUS: None

PLANNED WORK FOR MARCH:

Begin work on incorporation of EPA and CDH comments in the Final RFI/RI Work Plan

PROBLEMS: None

OPEN ITEMS: None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to determine the presence and levels of hazardous constituents in soil and ground water.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	02 Jan 92

FEBRUARY WORK ACTIVITY STATUS:

Comments from EPA and CDH on the Final RFI/RI Work Plan for OU 11 are being reviewed for incorporation into the document. CDH requested that changes to the Work Plan, primarily in the Field Sampling Plan and the Risk Assessment sections be made. The date for submittal of the revised Work Plan is March 16, 1992.

PLANNED WORK FOR MARCH:

Submittal of the revised OU 11 Final RFI/RI Work Plan is scheduled for March 16, 1992.

PROBLEMS:

Western Aggregate has submitted a request to DOE to mine the mineral resources, to which they own the rights, and are located under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral rights exchange which is tentatively scheduled to be completed by June 1992.

OPEN ITEMS: None

3.12 OU 12 - 400/800 AREA

DESCRIPTION:

The 400/800 Area involves assessment and remediation of the 12 IHSSs at the 400/800 Area, including: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - Northeast, South, and West of Building 460 (IHSSs 136.1, 136.2, and 136.3); Process Waste Leaks - Maas and Owen Areas (IHSSs 147.1 and 147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

FEBRUARY WORK ACTIVITY STATUS: None

PLANNED WORK FOR MARCH:

OU 12 Draft Phase I Work Plan development will begin in March 1992. The Final Work Plan is scheduled to be delivered to the regulatory agencies in October 1992.

PROBLEMS: None

OPEN ITEMS: None

3.13 OU 13 - 100 AREA

DESCRIPTION:

Cleanup of the 100 Area involves the assessment and remediation of 15 IHSSs including: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Underground Concrete Tank (IHSS 122); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

FEBRUARY WORK ACTIVITY STATUS: None

PLANNED WORK FOR MARCH:

OU 13 Draft Phase I Work Plan development will begin in March 1992. The Final Work Plan is scheduled to be delivered to the regulatory agencies in October 1992.

PROBLEMS: None

OPEN ITEMS: None

3.14 OU 14 - RADIOACTIVE SITES

DESCRIPTION:

Work at the "Radioactive Sites" involves the assessment and remediation of 9 IHSSs, including: Radioactive Site - 700 Area Site #1 and Site #2 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot and Soil Dump Area (IHSSs 156.1 and 156.2); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

FEBRUARY WORK ACTIVITY STATUS:

OU 14 Draft Phase I Work Plan development will begin in March 1992. The Final Work Plan is scheduled to be delivered to the regulatory agencies in October 1992.

PROBLEMS: None

OPEN ITEMS: None

3.15 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92

FEBRUARY WORK ACTIVITY STATUS:

Environmental Evaluations (EE)

A draft was prepared to present the case for eliminating EEs from OUs that are completely, or mostly, in the production area of the plant to the regulators at the Risk Assessment Technical Working Group meeting which was held February 21, 1992. Eliminating EEs from areas that are in the plant production area will save costs without affecting estimates of ecological risks. The ecosystem strategy established last year will allow the production area to be simply considered as a source term for receptors in the buffer zone OUs.

A draft plan for a program to characterize RFP surface soils was submitted to DOE. This program will provide information for IAG reports, geochemical characterization, and other environmental programs currently underway at RFP. The information will be of value for making natural resource management decisions in the future and in establishing cleanup levels.

Administrative Record

The quarterly update of the Administrative Record (AR) index, which contains approximately 1,100 documents, was completed and will be submitted to EPA and CDH for review and comment. Paper copies of the AR file for OU 4 and Site-wide Programs were collected and replaced with microfiche copies of the AR file on February 5, 1991. Reference and guidance documents pertaining to the OUs are being collected for inclusion in the AR index. Expectations are that the research for these documents will be completed before the next quarterly update of the AR index.

Field Activities Drum Usage

Inspection was completed of all drums in the buffer zone. All drums are present and conform to the SOP for labeling and required paperwork. At the present time, there are 1,000 drums in the buffer zone from the current drilling and sampling activities.

Protected Area (PA) Interim Measure (IM)/Interim Remedial Action Plan (IRAP)

Currently the PA contains all or portions of ten Operable Units (OUs) which are scheduled for Remedial Investigations (RIs). It may be advantageous to defer the RI process within the PA until a time when it is no longer impacted by security concerns. The resulting benefits would be a reduction in operating costs attributed to the ease of operating in a less restrictive working environment, and a better coordination of investigative and remedial effort resulting from the consolidation of geographically similar OUs.

A preliminary project plan was prepared to guide direction for the assembly of an IM/IRAP. The IM/IRAP would provide a plan under which contaminant sources, potential migration pathways, and potential sensitive receptors for known PA contamination are identified, and alternatives are proposed to stabilize or mitigate any immediate human health or environmental risks. The plan would assess and interpret current data with respect to potential exposure pathways and potential sensitive receptors. It would also define the Applicable or Relevant and Appropriate Requirements (ARARs) and applicable environmental regulations. The IM/IRAP will also identify and screen IM/IRA alternatives and provide documentation to aid the National Environmental Policy Act (NEPA) in determination of the environmental impacts of a proposed action.

A statement of work is currently being prepared to initiate the production of a PA/IRAP.

PLANNED SITEWIDE WORK FOR MARCH:

EPA and CDH will continue the review of the Historical Release Report through April 3, 1992.

EPA and CDH will continue the review of the Radionuclides Discharge Limits Plan and Responsiveness Summary

Continue development of the Protected Area Interim Remedial Action Plan (PA/IRAP)

PROBLEMS: None

OPEN ITEMS: None

4.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Monitoring and Assessment Division, Environmental Management Department, and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 120 stations) are sampled monthly.

Each of the Sediment Stations (approximately 40 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs	Major Anions
CLP TAL Metals	Radionuclides
plus Cesium	Field Parameters
Lithium	pH
Molybdenum	Temperature
Strontium	Specific Conductivity
Tin	Dissolved Oxygen (DO)
	Turbidity

SOILS:

Each of the Soil Stations (located at 1- and 2-mile radii from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

GROUND WATER:

A total of 259 of the 371 total Ground water Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each ground water sample is analyzed for CLP, TCL, VOAs, CLP, TAL, Metals, as well as the following parameters:

<u>Radiochemical Parameters</u>	<u>Inorganic Parameters</u>	<u>Field Parameters</u>
Gross Alpha	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta	Total Phosphorous	Specific Conductivity
Plutonium	Ortho-Phosphate	Temperature
Americium	Ammonia	Turbidity
Strontium		pH
Molybdenum		

5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

OU	PROJECT	SUBCONTRACTOR	SUB- SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RF/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Advance Tanks		Fabricate/install effluent storage tanks for OU1 IRA	Oct-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
1	Remediation	E.T. LaFore		Installation of Phase II-A treatment system equipment for OU1 IRA	Jun-91
1	Remediation	Eng Sciences		Design Phase II-B French drain for OU1 881 Hillside IRA	Sep-90
1	Remediation	Jennison		Construct Phase II-B French drain at OU1 IRA	Aug-91
1	Remediation	P.S.I.		UV bench scale testing for volatile organics	Aug-91
2	Assessment	Woodward-Clyde		OU2 RF/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RF/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Performance Specification for chemical precipitation/ membrane/filtration system for South Walnut Creek Phase of OU2 IRA	Jun-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Women Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	TBD		Mfg/install chemical precipitation/filtration unit for South Walnut Creek Phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	OU3 RI Work Plan	Mar-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
4	Assessment	IT Corporation	Applied Environ.	OU4 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
7	Assessment	IT Corporation	Stoller Corp.	OU7 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
11	Assessment	IT Corporation		OU11 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
SW	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fld. Oversight	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
SW	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebasco	SAIC	Develop and implement quality assurance program and field operations oversight	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90